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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,241	10/15/2003	Michael Dennis Krysiak	P/35-20 CIP	7602

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EXAMINER	
PALO, FRANCIS T	

ART UNIT	PAPER NUMBER
3644	

MAIL DATE	DELIVERY MODE
05/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/686,241	KRYSIAK ET AL.	
	Examiner	**Art Unit**	
	Francis T. Palo	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 17 February 2009.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,3-22 and 25-62 is/are pending in the application.

4a) Of the above claim(s) 26 and 27 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,3-22, 25 and 28-62 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 2/17/09 has been entered.

Terminal Disclaimer

The terminal disclaimer filed on 2/17/09 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 7,503,143 has been reviewed and is accepted.

The terminal disclaimer has been recorded.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25 and 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

While the instant claims only serve to further limit the PAM listed in claim-16, and as PAM has not been properly presented as a dependent claim further limiting the parent claim-1, the metes and bounds of the claim cannot be determined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 9-17, 20-22, 25 and 28-61 are rejected under 35 U.S.C. 102(b), as being anticipated by **Horne** (US 2,765,291) 1956.

Regarding independent **claims 1 and 58-60**:

Horne '291, "*has to do generally with the problem of introducing chemical agents into the soil in a convenient and effective manner*" (col.-1, line-1); "*thus, by utilizing pumice as an extender for soil conditioning agents, the relationship between agent and the extender is more intimate than that of an ordinary mixture*" (col.-1, line-43 thereabout), because the pores/channels characteristic of the pumice tend to prevent mutual segregation of the agent and the extender (col.-1, line-49).

Horne further teaches soil treating agents which are at least slightly water soluble, are gradually released from the pumice pores by the moisture of the soil (col.-3, line-51 therefrom), and that the "invention is particularly effective in connection with soil conditioning agents, such as synthetic organic polyelectrolytes, which improve soil structure by the production of aggregates" (col.-3, line-69 therefrom).

More particular to the instant invention is the teaching of synthetic organic electrolytes that consist of a polymer or a salt of a polymer comprising predominantly **acrylic** or methacrylic radicals readily available commercially in solution, which may be applied to the soil in association with pumice; for producing aggregation of the elemental soil particles, thereby improving the soil structure (col.-4, line-49 therefrom).

Horne also teaches the soil stabilizer can be employed in finely divided solid form and delivered via the coarse granular pumice (col.-1, line-28 therefrom).

It is submitted that in consideration of the above discussion, that Horne anticipates the instant invention as broadly recited in claim-1.

Specifically, Horne teaches improving soil structure via the association of water soluble acrylic polymer (as a soil stabilizer agent) and pumice (as a solid carrier); the resulting composition(s) may be mixed with the soil or may be employed as a mulch on the surface of the soil (col.-3, line-42 therefrom). Horne as discussed above further teaches release of the soil stabilizer from the pumice pores by the **moisture** of the soil; thus, “applying water to the solid carrier" as claimed.

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As to the agglomeration process claimed: The instant invention as claimed appears to be directed to a method of applying a water-soluble soil stabilizer, rather than a method for manufacturing a carrier as recited; further the method of manufacturing a carrier as claimed, does not serve to distinguish the instant carrier over the carriers of the prior art

.

As to the application rates of the solid carrier as claimed: Horne discloses his results illustrates; “the general ability of pumice, when employed in accordance with the invention, to limit the potentially harmful effects that may otherwise be produced by excessive concentration of polyelectrolyte, specifically excessive granulation of the soil (col.-7, line-25 therefrom). Horne further recites the instant method in his claim-5.

Concluding, Horne teaches, contemplates or is capable of the intended methods, directed to extending via a solid carrier (pumice), soil stabilizer (acrylic polymer) as claimed.

Regarding **claim-3**:

The discussion above regarding claim-1 is relied upon.

Horne is not specific as to the means for application of the soil stabilizer as claimed; rather, Horne discloses, "*introducing chemical agents into the soil in a convenient and effective manner*" in the first few lines of the '291 reference, which is read to encompass the application of the soil stabilizer "*through conventional means*", as claimed.

In the alternative, **Hamilton '733**, as previously relied upon in the prosecution of this application, can be relied upon for the obviousness showing of applying the soil stabilizer, "by means of simple spreading devices" (col.-2, lines 32 and 33), as claimed.

The examiner thus takes official notice that the means for applying the product of Horne'291 is old in the art, and obvious to one of ordinary skill in the art in view of Hamilton '733.

Regarding **claims 4 and 5**:

The discussion above regarding claim-1 is relied upon.

Horne teaches soil treating/conditioning agents which are at least slightly water soluble, are gradually released from the pumice pores by the moisture of the soil (col.-3, line-51 therefrom); it is well known for water to be applied via natural rainfall or scheduled irrigation to the soil; in the alternative Hamilton '733 can again be relied on for the obvious showing of water application as claimed.

Regarding **claims 6, 9 and 12-14**:

The discussion above regarding claim-1 is relied upon.

Horne teaches many different types of soil conditioning agents can be usefully extended by means of granular natural pumice (col.-3, line-12 therefrom), and discusses fertilizers and insecticides among others (col.-3, lines 14-42 thereabout) as claimed. As to extending disease causing microbes as claimed, it would be within the scope and spirit of Horne to consider microbes as claimed, as a soil conditioning agents.

Regarding **claim-11**:

The discussion above regarding claim-1 is relied upon.

Horne teaches polyelectrolytes are typically used at concentrations of the order of 0.05 percent (col.-4, line-54 thereabout), which satisfies the concentration as claimed.

Regarding **claims 15 and 21**:

The discussion above regarding claim-1 is relied upon.

Horne teaches concentrated soil nutrients and chemical fertilizers that are required in relatively small quantity in the soil and that may be provided in finely divided solid form can be effectively combined with natural pumice, and that trace elements where deficient in the soil may be mixed with pumice. As aluminum sulfate and calcium oxide are known mineral soil nutrients (rather than plant nutrients) for their effect on soil hydrogen concentration, it is submitted that the teaching of the claimed materials are within the spirit and scope of Horne.

Regarding **claims 16 and 17**:

The discussion above regarding claim-1 is relied upon.

More particular to the instant invention is the teaching of synthetic organic electrolytes that consist of a **polymer** or a salt of a polymer **comprising predominantly acrylic** (acrylic copolymers or polyacrylamide as claimed) or methacrylic radicals readily available commercially in solution, which may be applied to the soil in association with pumice; for producing aggregation of the elemental soil particles, thereby improving the soil structure (col.-4, line-49 therefrom).

Horne also teaches the soil stabilizer can be employed in finely divided solid form and delivered via the coarse granular pumice (col.-1, line-28 therefrom).

Further, in the absence of any stated problems solved by or any stated advantage obtained by having a certain water soluble soil stabilizer as claimed in the instant invention, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have considered alternative modern acrylic copolymers in Horne, as Horne teaches polymers comprising predominately acrylic; and, as where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (citing KSR v. Teleflex, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)).

Accordingly, applicants claim a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing KSR, 127 S.Ct. at 1740, 82 USPQ2d at1396.

Regarding **claim-22**:

The discussion above regarding claim-21 is relied upon.

Horne teaches the "invention is particularly effective in connection with soil conditioning agents, such as synthetic organic polyelectrolytes, which improve soil structure by the production of aggregates" (col.-3, line-69 therefrom). The aggregation of the soil as taught by Horne would encompass holding mineral elements in the soil as claimed.

Regarding **claim-25**:

The discussion above regarding claim-16 is relied upon.

In consideration of the 35 U.S.C. 112 rejection above, and in view of the discussion above regarding claims 16 and 17; the teaching of polymers comprising predominantly acrylic, while encompassing acrylic copolymers or polyacrylamide as claimed, would also encompass anionic, neutral and cationic forms as claimed.

Regarding **claims 28-36 and 40-57**:

The discussion above regarding claims 1 and 16 are relied upon.

The water soluble soil stabilizer of Horne is capable of the benefits as claimed.

Regarding **claims 37-39**:

The discussion above regarding claims 1 and 16 are relied upon.

In consideration of the 35 U.S.C. 112 rejection above, and in view of the discussion above regarding claims 16 and 17; the teaching of polymers comprising predominantly acrylic, while encompassing acrylic copolymers or polyacrylamide as claimed, would be capable of the benefits as claimed.

Regarding independent **claim-10**:

The discussion above regarding claim-1 is relied upon as being applicable to the instant method claim; the combinations of agromaterials and polymers contemplated by Horne are readable on an *agglomerate solid carrier*, as claimed.

Regarding independent **claim-20**:

The discussion above regarding claim-1 is relied upon as being applicable to the instant method claim; Horne teaches a useful range of pumice particles at from about 0.002 to about one-inch, and preferably from about 1/16 to about 3/8 inch diameter (col.-5, line-67 therefrom); the pumice of Horne is capable of the size distribution as claimed.

Regarding independent **claim-61**:

The discussion above regarding claim-1 is relied upon as being applicable to the instant method claim; Horne teaches concentrated soil nutrients and chemical fertilizers that are required in relatively small quantity in the soil and that may be provided in finely divided solid form can be effectively combined with natural pumice, and that trace elements where deficient in the soil may be mixed with pumice (col.-3, line-14 therefrom).

It is respectfully submitted that the teaching of providing the solid carrier of Horne with concentrated soil nutrients and chemical fertilizers, is readable on, "*said solid carrier consists essentially of a fertilizer containing nitrogen, phosphorus and/or potash*", as claimed; as the solid carrier of Horne could be provided (as in the coating teaching) with enough fertilizer or nutrient containing material to effectively and literally consist essentially of a fertilizer" as broadly claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 8, 18, 19 and 62 are rejected under 35 U.S.C. 103(a),

as being unpatentable over **Horne** (US 2,765,291) 1956,

as applied to claim-1 above, and further in view of

Hamilton (US 5,456,733) 1995.

Regarding **claims 7, 18 and 19**:

The discussion above regarding claim-1 is relied upon.

Horne '291 does not teach a solid carrier comprising fibrous material as claimed.

Hamilton '733 as previously relied upon in the prosecution of this invention teaches a solid carrier formed from waste paper having cross-linked polyacrylamide as a soil stabilizer.

It would have been obvious to one of ordinary skill in the art at the time the instant invention was made, to have substituted the fibrous solid carrier of **Hamilton** for the pumice solid carrier of **Horne**, as in the absence of any stated problems solved by or any stated advantage obtained by having a certain solid carrier as claimed in the instant invention, further such modification is merely an alternate equivalent delivery means performing the same intended function of extending polyacrylamide to or into the soil.

Further, where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (citing KSR v. Teleflex, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)).

Accordingly, applicants claim a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing KSR, 127 S.Ct. at 1740, 82 USPQ2d at1396.

Regarding **claim-8**:

The discussion above regarding claim-1 is relied upon.

Horne is silent as to the solid carrier further comprising a seed as claimed.

Hamilton teaches a pelletized solid carrier for releasing nutrients or seeds and to deposit polyacrylamide onto the soil (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the instant invention was made, to have substituted the fibrous carrier of Hamilton for the pumice carrier of Horne as discussed above in the rejection of claim-7, and to have further included seed for delivery as taught by Hamilton, for the additional advantage of consolidating seed and soil stabilizer delivery; as where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (citing KSR v. Teleflex, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)).

Accordingly, applicants claim a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing KSR, 127 S.Ct. at 1740, 82 USPQ2d at1396.

Regarding independent **claim-62**:

The method of the instant claim has been sufficiently discussed above in the discussions regarding claims 1 and 7 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis T. Palo whose telephone number is 571-272-6907. The examiner can normally be reached on M-Tu.,Th.-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Francis T. Palo/
Primary Examiner
Art Unit 3644